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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,573	03/17/2004	Joseph Marion Miller	250440US20	2751

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1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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SANDERS JR, JOHN R

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/801,573

Applicant(s)

MILLER ET AL.

Examiner

John R. Sanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-81 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

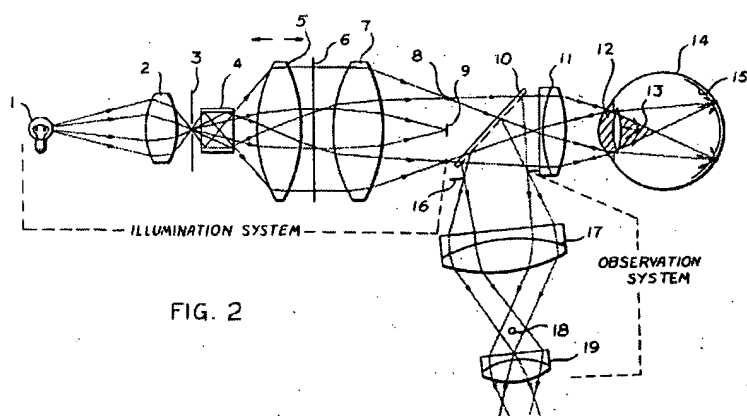
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 17, 45, 46, 53 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,850,327 to Winthrop et al (“Winthrop”).

Winthrop discloses an annular light emitter 8 created by an illumination system (fig. 2) that directs light through objective lens 11 to impinge upon eye 14. Coupling lens 17 images light reflected from the eye having passed back through the objective lens 11.



**Figure 2, Winthrop '527**

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3. Claims 1, 2, 17, 45, 46, 53 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,859,051 to Fukuma et al ("Fukuma").

Fukuma discloses an annular light source created by ring pattern 203 incident through objective lens 110 to impinge upon the eye E. Multiple relay lenses 113, 116 and imaging lens 118 image the light passed back through the objective lens after reflection from the eye. Fukuma discloses both a corneal reflection image and a retinal reflection image.

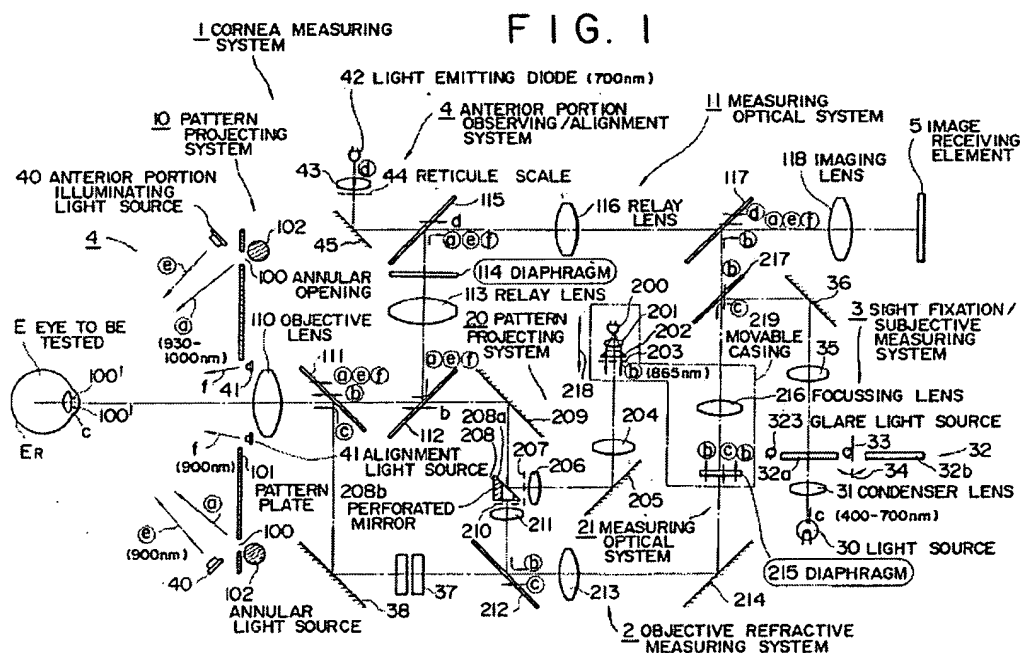


Figure 1, Fukuma '051

4. Claims 1, 17, 45, 46 and 53 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Publication No. 2005/0018136 to Hayashi ("Hayashi").

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Hayashi discloses an imaging system with objective lens **22**, coupling lens **44**, and annular light emitter **84** comprised of a plurality of LEDs wherein the light from the LEDs passes through objective lens **22** prior to impinging upon the eye.

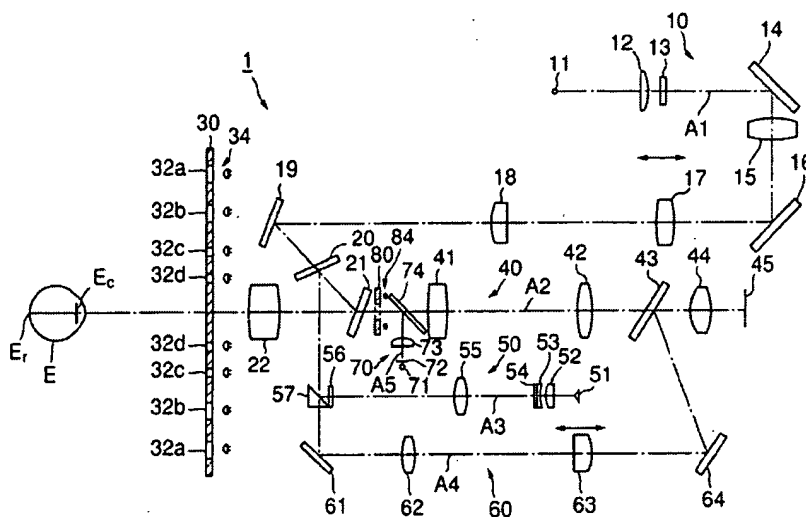


Figure 1, Hayashi '136

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 3-16, 40-49, 51-65 and 74-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winthrop, Fukuma or Hayashi in view of U.S. Patent No. 4,660,945 to Trachtman.

Winthrop and Fukuma do not expressly disclose an annular light emitter composed of LEDs, fiber optics or a light ring. Hayashi does not expressly disclose the annular light emitter composed of fiber optics or a light ring.

Trachtman teaches an annular light source (17) capable of being composed of multiple LEDs, fiber optics, or a light ring as known in the art (col. 9, lines 39-46; col. 1-, lines 15-24). One of ordinary skill in the art would have found it obvious to substitute the annular light emitter of Winthrop or Fukuma with an annular arrangement of LEDs, fiber optics or a light ring, as in Trachtman as they are art-recognized functionally equivalent expedients for creating annular light.

The use of multi-colored LEDs (red, green, blue) to create white light is common knowledge in the art and obvious to implement for the LEDs in an annular light source.

It is known in the art to use infrared and white light illumination together in an ophthalmic instrument for various functions, such as white light for imaging and infrared for alignment (or vice versa), since the different wavelengths of light allow for multiple functions of the instrument along the same optical path. One of ordinary skill in the art would have found it obvious to substitute infrared for visible light and vice versa in the devices of Winthrop, Fukuma and Hayashi in order to image the eye in white light or infrared, and/or to use white or infrared light for alignment as these expedients are known in the art.

The claimed variations of diopter lens powers, the use of IR light for imaging and/or alignment, the use of digital image/video capturing equipment, flash synchronization, and combination linear polarizer and quarter-wave plate are all known expedients in the art and obvious to one of ordinary skill in the art to implement in an eye examination apparatus.

7. Claims 24-39 and 66-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winthrop, Fukuma or Hayashi in view of U.S. Patent No. 5,752,767 to Muehlemann or, in the alternative, U.S. Patent No. 3,700,858 to Murthy.

The broadest reasonable interpretation of “baffle” as used in ophthalmic imaging would be any element that blocks or absorbs at least a portion of light. With this in mind, the ring diaphragm **203** of Fukuma or the diaphragm **3** of Winthrop can be construed as a “baffle” restricting the light from the center portion of the objective lens. Use of such an element in an ophthalmic imager would have been obvious to one of ordinary skill in the art as diaphragms are common expedients in the art for masking light.

With respect to the limitation of a conical frustum, Muehlemann teaches a diffuse ring illuminator with a conical baffle for creating annular incident light. Murthy discloses a conical baffle within an imaging arrangement keeping light from passing from lamps **57** through lens **55**. Conical baffles are common expedients for masking light in a radial arrangement and one of ordinary skill in the art would have found it obvious to use such an element to mask light from an annular light source such as in Winthrop, Fukuma or Hayashi from passing through the center portion of the objective lens, since it is well known in the art to restrict incident light to the outer portion of the objective lens and reflected light to the inner portion of the objective lens. This is

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one means known in the art for eliminating double-pass interference effects caused by light passing through the same area of the objective lens on the incident and return paths.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John R. Sanders whose telephone number is (571) 272-4742. The examiner can normally be reached on M-F 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
jrs

  
**BRIAN L. CASLER**  
**SUPERVISORY PATENT EXAMINER**  
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